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**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Application Number: 09/843,219  
Filing Date: April 26, 2001  
Appellant(s): THEISEN, LYLE

\_\_\_\_\_  
TIMOTHY ZARLEY  
For Appellant

**EXAMINER'S ANSWER**

This is in response to the appeal brief filed on June 14, 2004.

**(1) Real Party in Interest**

A statement identifying the real party in interest is contained in the brief.

**(2) Related Appeals and Interferences**

A statement identifying the related appeals and interferences which will directly affect or be directly affected by or have a bearing on the decision in the pending appeal is contained in the brief.

**(3) Status of Claims**

The statement of the status of the claims contained in the brief is correct.

**(4) Status of Amendments After Final**

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

**(5) Summary of Invention**

The summary of invention contained in the brief is correct.

**(6) Issues**

The appellant's statement of the issues in the brief is correct.

**(7) Grouping of Claims**

Appellant's brief includes a statement that claims 33-52 do not stand or fall together and provides reasons as set forth in 37 CFR 1.192(c)(7) and (c)(8).

**(8) Claims Appealed**

The copy of the appealed claims contained in the Appendix to the brief is correct.

**(9) Prior Art of Record**

5,656,668	MOTION ET AL.	8-1997
5,628,934	OHNO ET AL.	5-1997
5,188,219	COATES ET AL.	2-1993
5,166,345	AKASHI ET AL.	11-1992

**(10) Grounds of Rejection**

The following ground(s) of rejection are applicable to the appealed claims:

***Claim Rejections - 35 USC § 102***

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 36, 39, and 42 are rejected under 35 U.S.C. 102(b) as being anticipated by Ohno et al. (US 5628934) ("Ohno").

Ohno discloses an emulsified foundation comprising zinc oxide and zirconium oxide composite possessing photochromic properties, water, preservative, and iron oxide, which is viewed as a "fixed dye". See col. 21, Example 7. The reference teaches that the ingredients are dispersed in the mixture. See col. 21, lines 21 – 34. The reference also teaches that the color changes when irradiated with light and returns to its original color, indicating that the invention is a reversible photochromic composition. See col. 1, lines 18 – 24. While the reference does not mention the stable property of the composition, examiner takes the position that the recited stability in claim 42 is an inherent property of the prior art composition, since the composition meets every limitation of the claim 36.

***Claim Rejections - 35 USC § 103***

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

1. Claims 37 and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ohno as applied to claims 36, 39, and 42 as above.

Ohno reference teaches using 1-60 % of the photochromic color pigments. See col. 3, lines 4 – 9. The reference also teaches foundation formulations comprising up to 20 % of photochromic titanium oxide, up to 20 % of ordinary titanium oxide; paraben; and 2 % of iron oxide. See claims 37 and 38. The reference teaches using ordinary pigments, UV absorbers (light stabilizers), preservatives, water, and thickeners to blend with the composition in col. 7, lines 3 – 39.

Generally, differences in concentration will not support the patentability of subject matter encompassed by the prior art unless there is evidence indicating such concentration is critical. See MPEP § 2144.05. Since the general conditions of the instant claims are disclosed in Ohno, examiner views that one having ordinary skill in the art would have discovered the optimum or workable ranges by routine experimentation. It would have been obvious to a routineer to modify the concentration of coloring agents to change the degree of intensity of color or change of color.

2. Claims 33, 35, and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ohno as applied to claims 36-39, 42 above, and further in view of Motion et al. (US 5656668) ("Motion").

Ohno fails to teach the pH of the composition.

Motion teaches topical compositions having pH in the range of 5.8- 7.5. See Examples 3-5.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have adjusted pH of the composition of Ohno as motivated by Motion to the pH level that is suitable for topical use. For claim 35, the recited composition of claim 33 would have been an obvious variation of the combined references, thus, the stability of the composition would have been an obvious property present in the composition.

3. Claims 34 and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ohno as applied to claims 33, 35-40, and 42 above, and further in view of Akashi et al. (US 5166345) ("Akashi").

Ohno, mentioned above, fails to teach photochromic composition comprising a benzene derivative and a binder.

Akashi teaches water-soluble photochromic polymers having a benzyl group. See col. 1, line 45– col. 2, line 24; col. 3, line 36 – col. 8, line 68. The reference teaches that the polymer particles are useful in cosmetic compositions. See col. 10, lines 28 – 43. The reference teaches adding a binder in formulating a photochromic composition. See Example 29. The reference teaches that the invention is durable and exhibits high color density, stable against heat and solvent, and has a good reversibility of the color. See col. 2, lines 26 – 38.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the composition of Ohno by substituting the photochromic pigments with the photochromic polymers of Akashi, as motivated by the reference, because of the expectation of successfully producing a cosmetic composition which is stable, exhibits good color density and reversibility of the color.

4. Claims 47-50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ohno in view of Coates et al.

Ohno, discussed above, fails to teach thermochromic composition.

Coates teaches the thermochromic cholesterol liquid crystalline phases useful in cosmetics in general. See abstract; col. 10, lines 4 – 51; Example 7. Azobenzenes or benzylideneanilines are preferred components in the liquid crystal phase. See col. 9, lines 10 – 27.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the composition of Ohno by adding the thermochromic cholesteric liquid crystalline phases as motivated by Coates because of an expectation to successfully producing a cosmetic composition with both photochromic and thermochromic properties and thus enhancing the overall color change effects of the composition.

5. Claims 43, 45, and 46, and 51 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ohno and Coates as applied to claims 47-50 above, and further in view of Motion.

Ohno and Coates fail to teach the pH of the composition.

Motion teaches topical compositions having pH in the range of 5.8- 7.5. See Examples 3-5.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have adjusted pH of the composition of the combined references as motivated by Motion to the pH level that is suitable for topical use. For claim 45, the recited composition of claim 43 would have been an obvious variation of the combined references, thus, the stability of the composition would have been an obvious property present in the composition.

6. Claims 44 and 52 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ohno and Coates as applied to claims 43, 45- 51 above, and further in view of Akashi et al. (US 5166345) ("Akashi").

Ohno, Coates, and Motion fail to teach photochromic composition with a benzene derivative and a binder.

Akashi teaches water-soluble photochromic polymers having a benzyl group. See col. 1, line 45— col. 2, line 24; col. 3, line 36 – col. 8, line 68. The reference teaches that the polymer particles are useful in cosmetic compositions. See col. 10, lines 28 – 43. The reference teaches adding a binder in formulating a photochromic composition. See Example 29. The reference teaches that the invention is durable and exhibits high color density, stable against heat and solvent, and has a good reversibility of the color. See col. 2, lines 26 – 38.



It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the composition of the combined references by substituting the photochromic pigments with the photochromic polymers as motivated by Akashi because of an expectation of successfully producing a cosmetic composition with stable property, high color density and good reversibility of the color, without the interference with the thermochromic properties of the composition.

**(11) Response to Argument**

Both photochromic and thermochromic agents are well known cosmetic dyes, as shown by the prior arts. In this case, applicants' claims are not even limited to any specific types of photo- and thermochromic dyes, except for the photochromic "benzyl derivative" which are claimed in the dependent claims. Compositions comprising photochromic colorants and ordinary pigments are well known in the art, as disclosed by the Ohno reference. Examiner also asserts that one of ordinary skill in the art would have been motivated to use both photochromic coloring agent with thermochromic coloring agents in expectation of obtaining additive visual effects. Adding two compounds each of which is taught by the prior art to be useful for the same purpose, in order to form a composition which is to be used for the very same purpose is prima facie obvious. See In re Kerkhoven, 626 F.2d 848, 205 USPQ 1069 (CCPA 1980). Examiner views that the main issue in this case is whether photo- and thermochromic cosmetic dyes are considered to be useful for the "same purpose". Examiner asserts that these colorants serve the same purpose of providing colors to the composition and visual effects upon application to skin. Even applicants admit that using "one or more

pigments” to make a cosmetic composition is a traditional practice in the art. See spec. p. 1, lines 17-19. Examiner asserts that the concurrent use of the well known photo- and thermochromic colorants is analogous to the concurrent use of conventional dyes of different colors in order to produce the desired coloring effects, such as using red with black dyes, or blue dyes with pearlescent pigments.

Applicants’ claims contain four independent claims - claims 33, 36, 42, and 47. While claims 33 and 36 each claims a photochromic composition, claim 36 has broader limitation than claim 33. While claims 43 and 47 require both photo- and thermochromic agents present in the composition, claim 47 has broader limitation than claim 43. The issues raised by applicants are accordingly addressed below.

***Issue 1.*      Claims 36, 39, and 42 are anticipated under 35 U.S.C. § 102 by Ohno, as each and every element of the claimed invention is disclosed by the reference.**

Applicants assert that Ohno fails to teach every element of the claimed invention, as the iron oxide in Example 7 of the reference is not “disclosed as a fixed dye”. Applicants’ “fixed dye” is no more than an ordinary dye. See spec. p. 14, lines 14 – 31. However applicants choose to call ordinary dye does not change the fact that applicants are using the same ingredients disclosed by the prior art.

While applicants assert that the iron oxide used in Example 7 has photochromic properties, there is no factual support. In fact, Ohno teaches in col. 6, line 55 – col. 7, line 10 that ordinary metal oxides such as iron oxides are to be combined with photochromic metal oxides.

**Issue 2. Claims 37 and 38 are obvious under 35 U.S.C. § 103 in view of Ohno.**

Applicants assert that the prior art “ordinary titanium oxide” is “a component for providing photochromic titanium oxide”. Examiner disagrees. The reference merely teaches that photochromic pigments can be made from ordinary pigments. Whether the pigments actually used in the formulations are photochromic or ordinary is unambiguously indicated in the actual formulations. For example, in comparing between the effects of photochromic titanium oxide and an organic photochromic compound 1,3,3-trimethylindolino-6'-nitrobenzo-pyrospiropyran, it is clearly indicated whether the metal oxide is photochromic or ordinary. See col. 9, lines 27 – 58. The claimed limitation on the “fixed dye” concentration of 5 – 25 % is also met, since the reference teaches to use ordinary titanium oxide by 20 % by weight.

**Issue 3. Claims 33, 35, and 40 are obvious under 35 U.S.C. § 103 in view of the combination of Ohno in view of Motion.**

Applicants assert that there is no motivation to combine the Ohno and Motion references because the prior arts “take mutually exclusive paths to formulating a photochromic composition”. Specifically, applicants reason that the two references cannot be combined because one uses inorganic photochromic compound while the other teaches organic photochromic compound. Examiner asserts that the argument is unpersuasive. The specific issue here is whether the Motion reference would have motivated one of ordinary skill in the art to adjust the pH of the Ohno cosmetic composition to the ideal pH for skin care. Since both Motion and Ohno are directed to

skin cosmetic compositions, and it is obvious that the pH of the Motion compositions is also suitable for the Ohno compositions.

**Issue 4. Claims 34 and 41 are obvious under 35 U.S.C. § 103 in view of the combination of Ohno and Akashi.**

Applicants argue that, since Ohno and Akashi are directed to an inorganic and organic photochromic compositions, respectively, the references teach away from each other and cannot be combined.

While applicants assert that Ohno teaches away from substituting the inorganic photochromic agents of Ohno with the organic photochromic agents of Akashi, examiner is aware that it is improper to combine references where the references teach away from their combination. See In re Grasselli, 713 F.2d 731, 743, 218 USPQ 769, 779 (Fed. Cir. 1983) (The claimed catalyst which contained both iron and an alkali metal was not suggested by the combination of a reference which taught the interchangeability of antimony and alkali metal with the same beneficial result, combined with a reference expressly excluding antimony from, and adding iron to, a catalyst.). However, the present case must be distinguished from the facts in In re Grasselli.

Applicants points out the introductory passage of the reference in col. 2, lines 35-52 which states, "in the case of organic photochromic agents, the degree of color change does not shift gradually corresponding to the change of light intensity, but rather, the color change occurs rapidly at a certain fixed light intensity. This makes such organic photochromic agents unsuitable for regulating changes in color rendering

accompanying changes in light intensity.” Examiner asserts that the reference does not teach against using organic photochromic agents; the reference simply suggests that organic photochromic compounds are less desirable for a particular aspect, i.e., regulating color change by light intensity. It is extremely well settled in patent law that even a nonpreferred embodiment constitutes a prior art. A known or obvious composition does not become patentable simply because it has been described as somewhat inferior to some other product for the same use.” See In re Gurley, 27 F.3d 551, 554, 31 USPQ2d 1130, 1132 (Fed. Cir. 1994). The court in In re Heck held, “the use of patents as references is not limited to what the patentees describe as their own inventions or to the problems with which they are concerned. They are part of the literature of the art, relevant for all they contain.” See In re Heck, 699 F.2d 1331, 1332-33, 216 USPQ 1038, 1039 (Fed. Cir. 1983) (quoting In re Lemelson, 397 F.2d 1006, 1009, 158 USPQ 275, 277 (CCPA 1968)). A reference may be relied upon for all that it would have reasonably suggested to one having ordinary skill the art, including nonpreferred embodiments. See Merck & Co. v. Biocraft Laboratories, 874 F.2d 804, 10 USPQ2d 1843 (Fed. Cir.), cert. denied, 493 U.S. 975 (1989). In the present case, Ohno merely teaches that organic photochromic compounds exhibit color changes that is less desirable for the patentee. This teaching does not make the already known use of the organic compounds nonobvious or surprising.

Applicants also asserts that Ohno teaches away from employing organic photochromic compounds for safety concerns. The reference states, “in the case of use in cosmetics, etc., the safety of organic photochromic agents with respect to the human

body is not sufficiently confirmed and moreover, various other issues remain unknown, such as the occurrence of photodegradation.” On the other hand, Akashi specifically teaches the beneficial use of the particular organic photochromic agent. A skilled artisan would have found the Akashi photochromic compounds suitable for cosmetic use because the reference specifically teaches that the pigments provide skin protection and “fashionable” visual effects. See col. 10, lines 29 – 43. The general safety concerns of organic compounds in Ohno also does not amount to “teaching away” from combining the reference with Akashi because Akashi in fact specifically teaches the skin protection function of its invention. Thus, combining Ohno and Akashi is proper, and examiner maintains the position that substituting the Akashi pigments with the Ohno pigments would have been obvious to a routineer.

***Issue 5. Claims 47-50 are obvious under 35 U.S.C. § 103 (a) in view of Ohno and Coates.***

Applicants assert that the examiner’s rationale to combine the Ohno and Coates references is imitative of applicants’ disclosure and an improper hindsight. Examiner respectfully disagrees. In response to applicant’s argument that the examiner’s conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant’s disclosure, such a reconstruction is proper. See In re McLaughlin, 443 F.2d 1392, 170 USPQ 209 (CCPA


1971). In this case, the Ohno and Coates references objectively provide evidences that both photochromic agents and thermochromic pigments are well known in cosmetic art. It would have been obvious for the routineer to combine the two kinds of pigments in expectation of producing additive visual effects. Moreover, it is generally considered prima facie obvious to combine two compounds each of which is taught by the prior art to be useful for the same purpose, in order to form a composition which is to be used for the very same purpose. The idea for combining them flows logically from their having been used individually in the prior art. See In re Kerkhoven. As shown by the recited teachings, the instant claims define nothing more than the concomitant use of two conventional coloring agents. It would follow that the recited claims define prima facie obvious subject matter.

While applicants assert that Ohno teaches away from “any organic compound” in the cosmetic formulation of Ohno, examiner respectfully notes that there is no factual support for such argument. For example, the composition A in col. 9, line 39 – 55 contains squaline and Vaseline, which are organic compounds. See also Example 7. The specific passage in Ohno to which applicants refer is only directed to organic photochromic agents in general, and a skilled artisan would not reasonably believe that such teaching applies to other organic compounds.


VI. Applicants’ arguments in **Issues** 6 and 7 are redundant and addressed above.

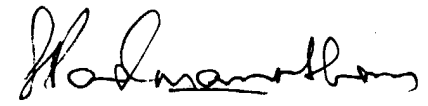
For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

  
Gina Yu  
Patent Examiner  
September 17, 2004

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